Water Conservation Assessment

Potable

- Existing and future (year 2050) use
- Indoor water conservation (toilet & shower retrofits)
- Outdoor water conservation
- Use-based rate structure

Irrigation

- Sprinkler conversion with soil moisture sensors
- Installation of pipe
- Operational changes
- Use-based rate structure
- Benefits of conserved water

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Water Conservation Assessment

Hydropower

- Each districts' potential for new or improved production

Sediment control

- Flow rates, sediment size and composition
- Electro-coagulation
- Chemical-coagulation
- Filtration
- Hydrodynamic separation
- Settling (settling velocity, effectiveness of existing facilities, new facilities)

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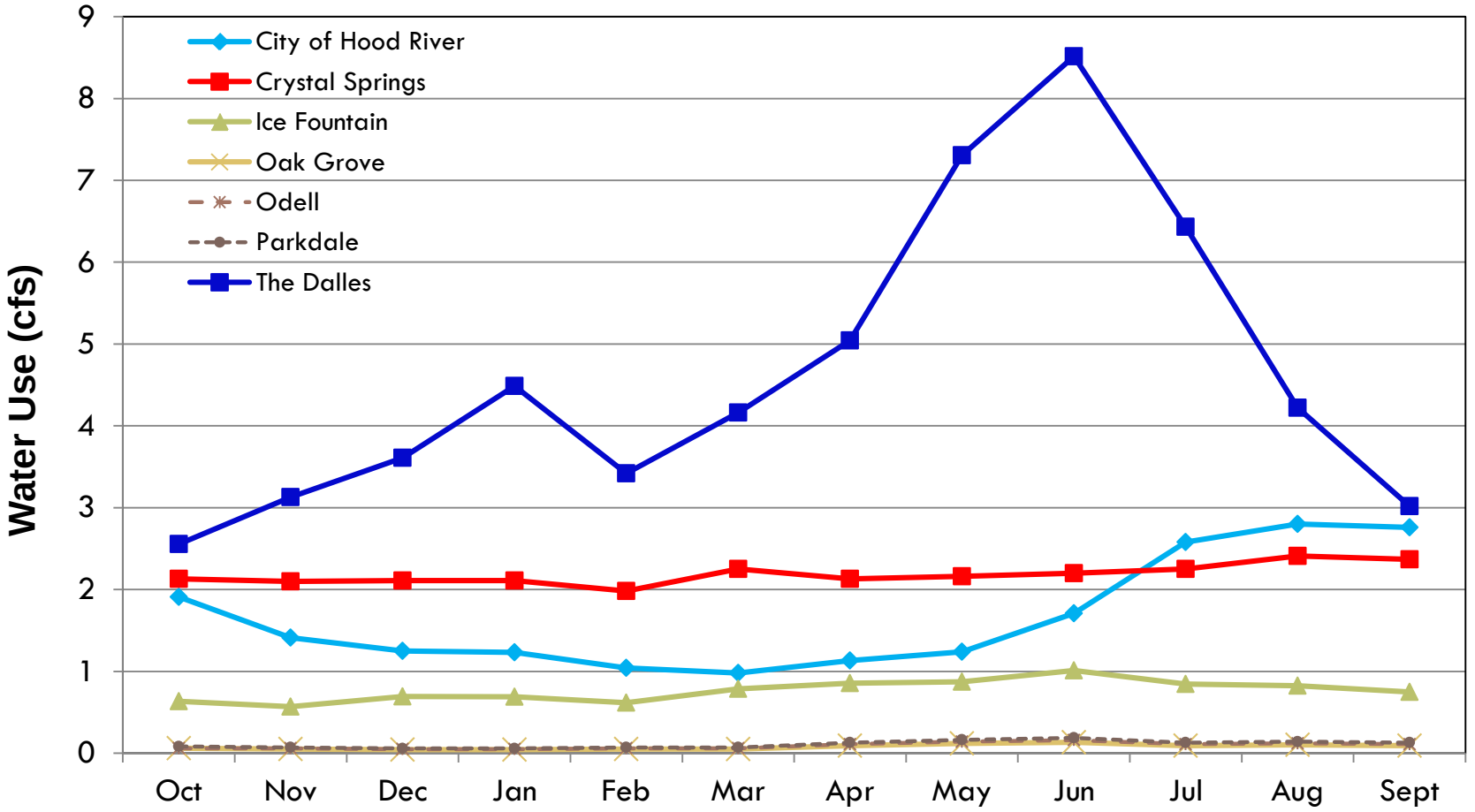
Potable

Potable: Existing Use



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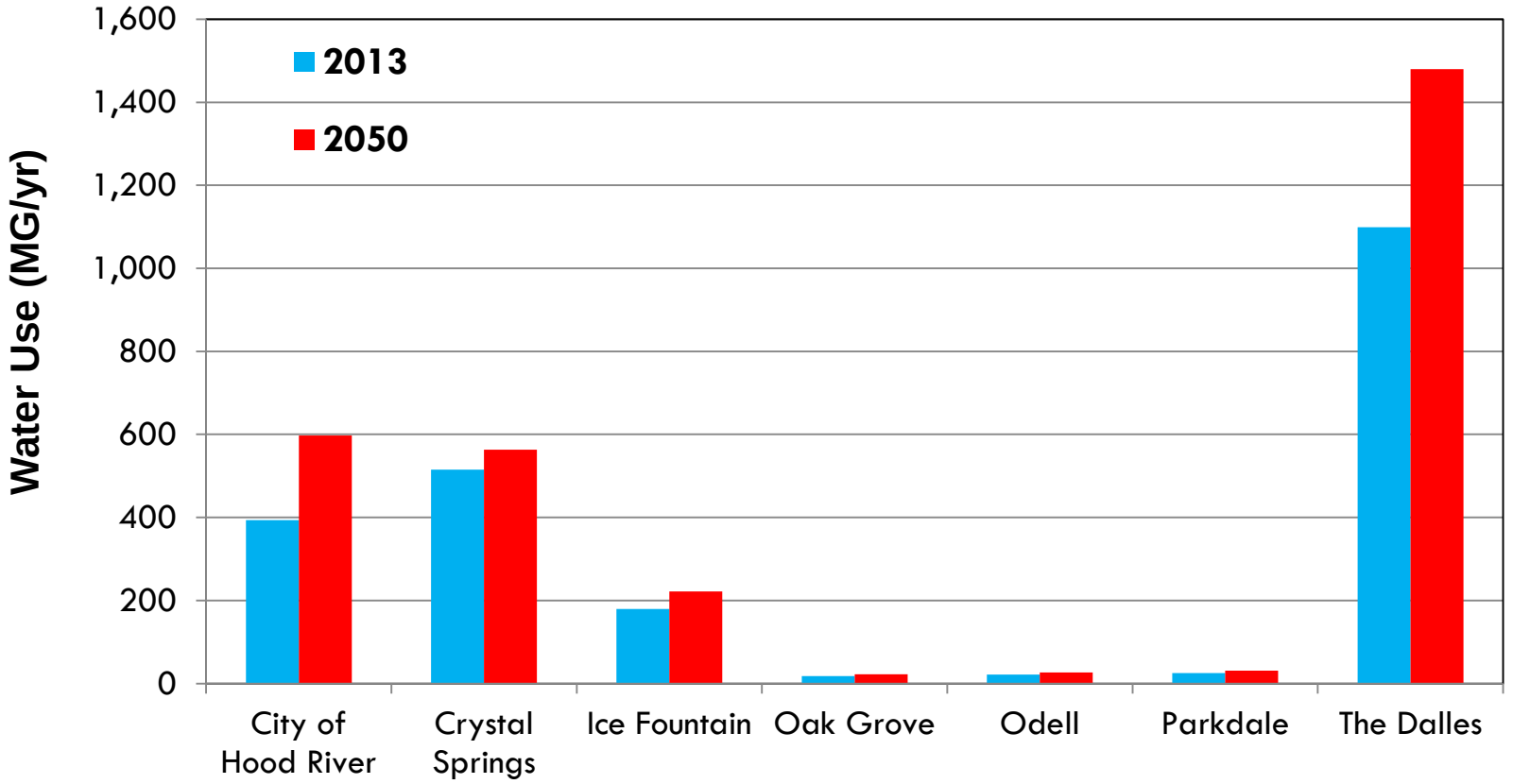
Potable: Existing and Future Use



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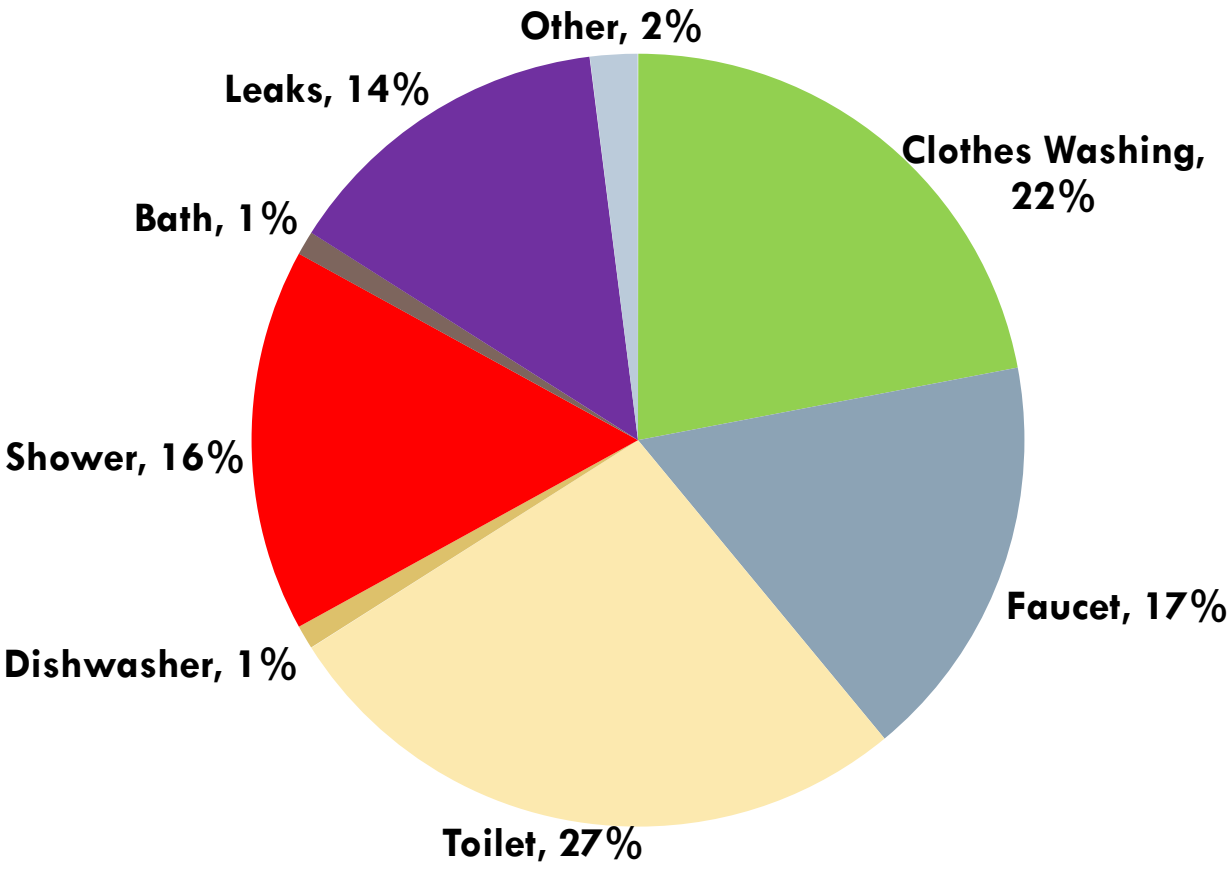
Potable: Indoor Water Use



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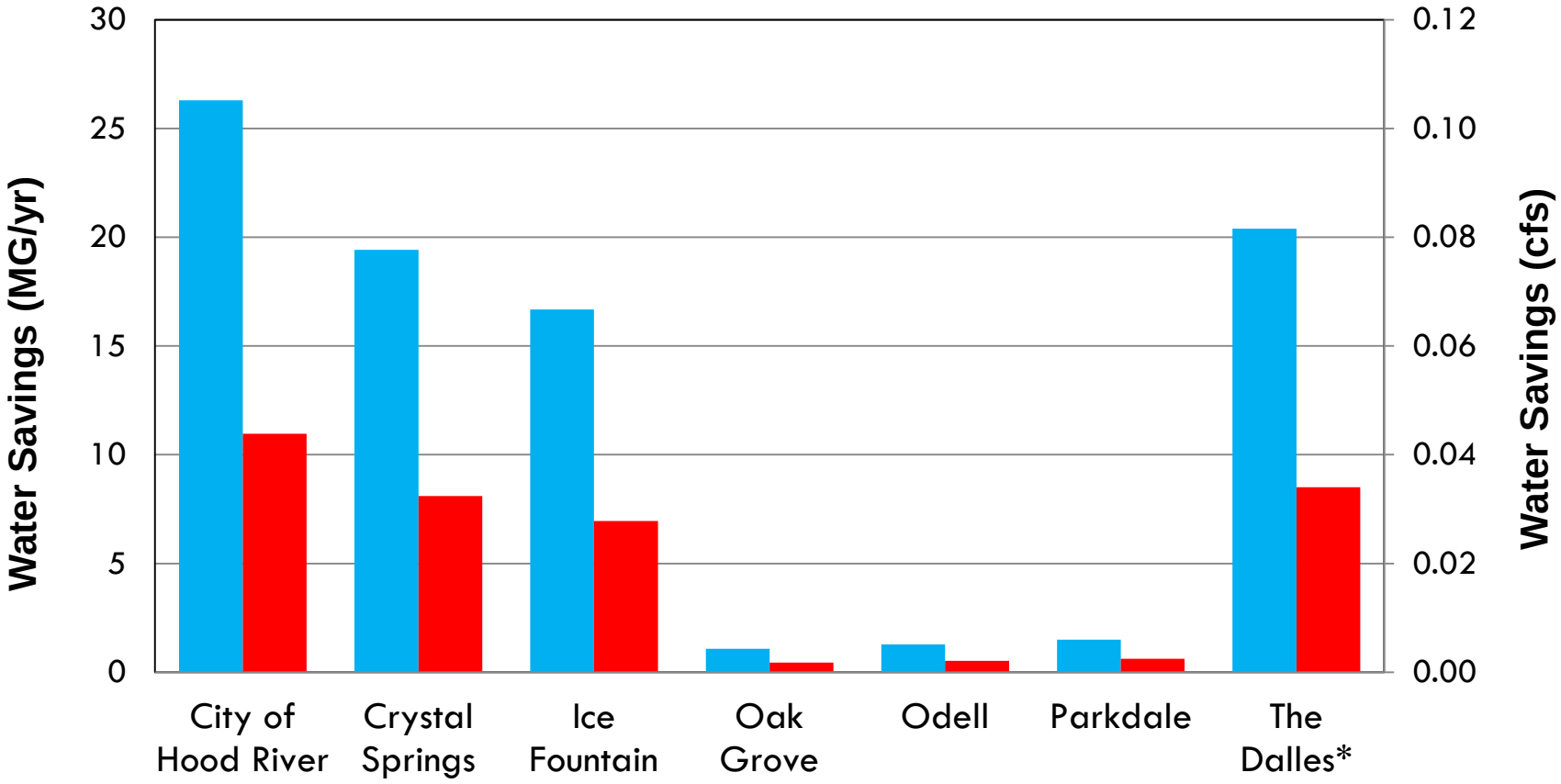
Potable: Indoor Water Conservation



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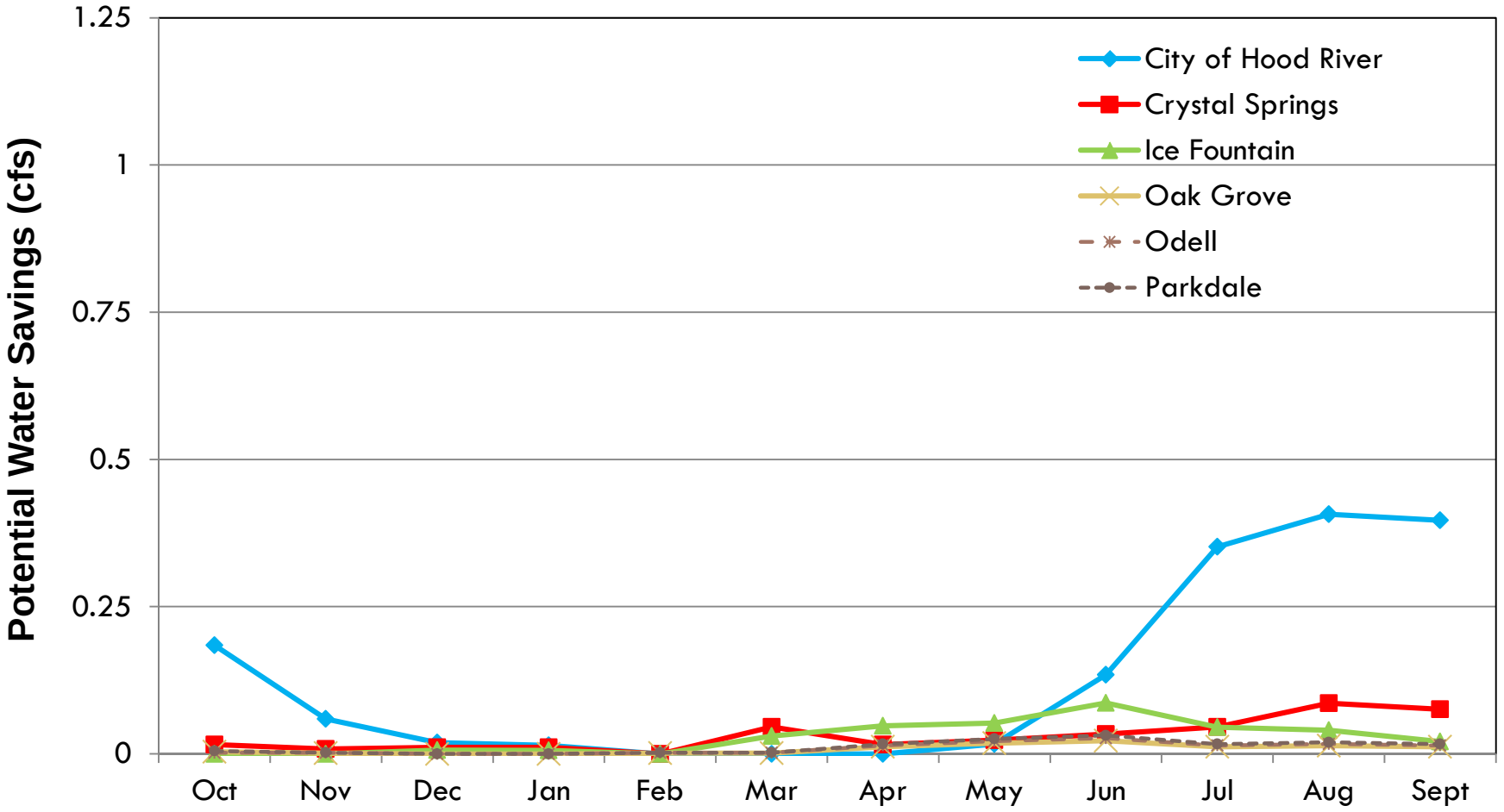
Potable: Outdoor Water Conservation

(25% reduction in outdoor use based on national studies)



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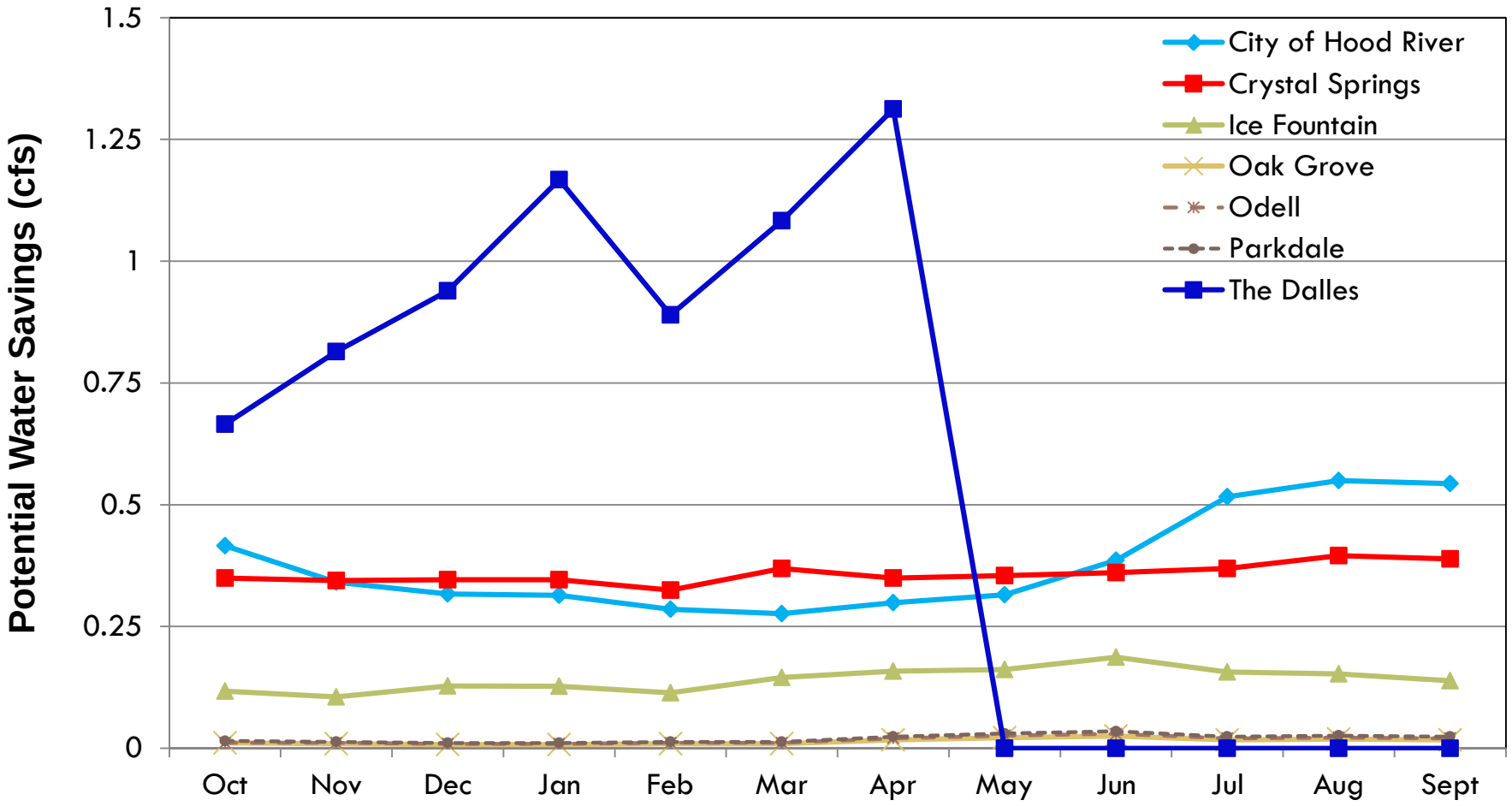
Potable: Use-based rates

(25% increase in price, price elasticity = -0.6: → 15% reduction in use)



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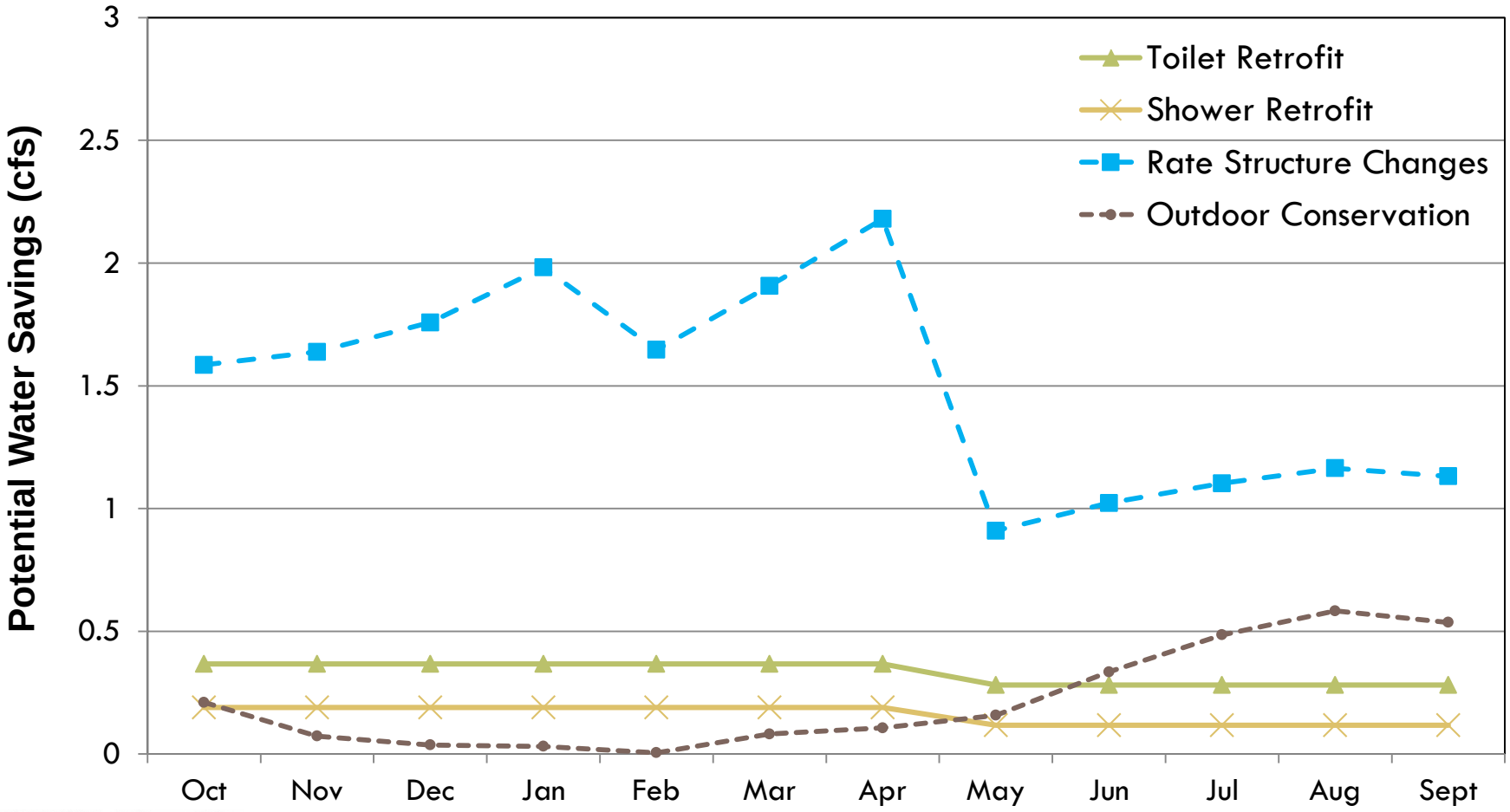
Potable: All Conservation Measures



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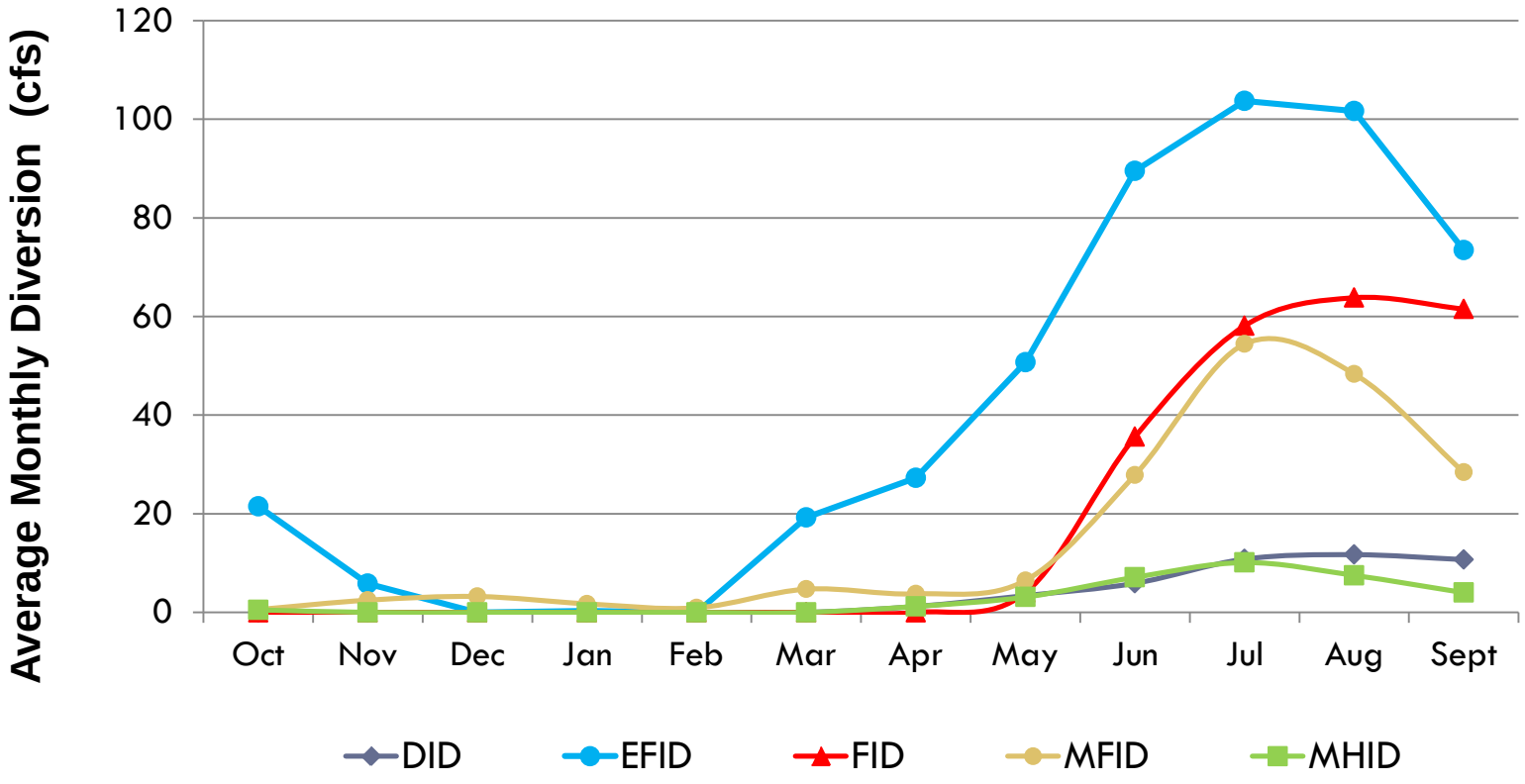
Irrigation & Agricultural

Irrigation & Agricultural: Existing Use



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Irrigation: Sprinkler Conversion

Based on: - SWCD and Irrinet water use studies.
- Sprinkler surveys from each irrigation district.
- Conversion of 49% of impact sprinklers to micros sprinklers.

District	Acres Converted	Cost ($)	Water Use Reduction		
			ac-ft	cfs	%
DID	210	$250,000	179	0.5	10.6
EFID	2,658	$2,756,000	2,297	7.6	12.0
FID	529	$635,000	401	1.3	3.5
MFID	2,096	$2,515,000	1,800	6.0	13.1
MHID	190	$227,000	163	0.5	6.7

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Irrigation: Pipe and/or Operational

Based on: - Previous studies.
- Feedback from irrigation district managers.
- Comparison of water use data and calculated demand (acreage x sprinkler type).

District	Cost ($)	Water Use Reduction (cfs)
DID	$1,436,000	1.5
EFID	$16,040,000*	32
FID	n/a	Small
MFID	n/a	Small
MHID	$270,000*	2*

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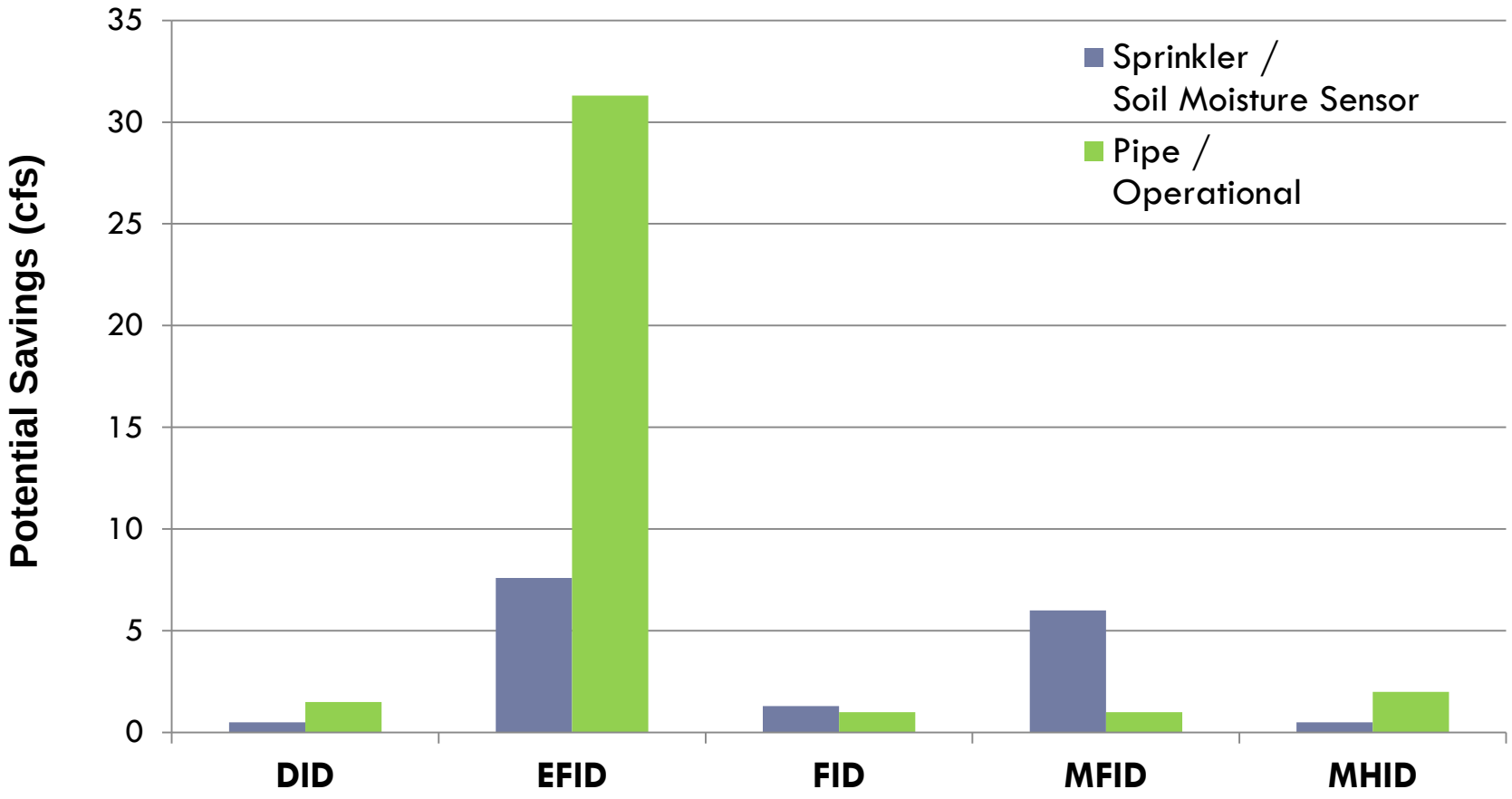
Irrigation: Sprinkler, Pipe/Operational



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Potential Water Resource Alternatives

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Potential Water Resource Alternatives

Potable:

- Increased demand due to population change? **Yes**
- Decreased demand due to water conservation? **Maybe**

Irrigation:

- Increased demand due to climate change (increased ET demand)? **Maybe**
  → 10% increase per 1° Celsius.
- Decreased demand due to sprinkler conversion? **Yes**
  → 49% conversion rate, individual % for each district.
- Decreased demand due to pipe/operation changes? **Yes**
  → DID: 1.5 cfs.
  → EFID: 16 cfs.
  → MHID: 1 cfs.

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Potential Water Resource Alternatives

1). Baseline

Historical climate, existing demands/operations.

2). Future; status quo

Future climate, existing demands/operations.

Potential Alternatives (BOR will do three):

3). Future; new demands

Future climate, future demands (combination of increases/decreases due to population/conservation).

4). Future; new storage

Future climate, new storage sites with existing demands.

5). Future; new demands and new storage

Future climate, new storage sites with new demands.

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